

## Fungal Stain and Mold

There are different sources of stain on wood including chemical, oxidative, and fungal. This note focuses only on fungal stain.

Both stain fungi and mold fungi are considered “non-decay” fungi. Stain and mold fungi utilize sugars and other extractives in wood as food. Molds will also grow on other environmental contaminants found on the surface of wood such as tree pollen.

Stain and mold generally do not influence the mechanical properties of the wood although they can make it more permeable to the ingress of fluids. They may also facilitate the growth of decay fungi. Stain fungi predominantly grow below the surface of wood and give wood a dark blue to black appearance that can not be rubbed or planed off. This color comes from the pigmented hyphae (or body) of the fungus. Because stain fungi do not decay or break down wood as they grow throughout wood, they follow openings in the cellular structure of wood. This is demonstrated nicely by the typical dark fingers seen on the end of a log or

board radiating from where the bark was on the original tree to the center of the tree.

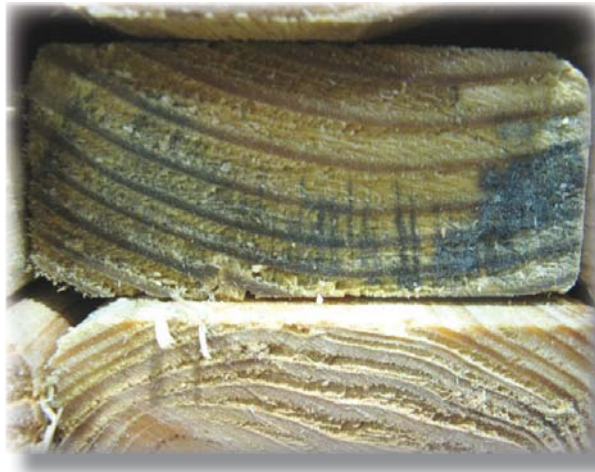
Mold fungi grow, for the most part, only on the surface of wood. Thus, they can be removed by mechanical methods leaving the wood intact. Mold hyphae are usually not pigmented and will appear as a soft white mass. The color of mold comes from its pigmented spores. They can range from off-white to black and include green, yellow, and pink.

Non-decay fungi develop their spores (or seeds) in structures called conidiophores. For both types of fungi, these structures are found on the surface of the wood. Confusion of stain and mold can be clarified by looking at the wood below the surface fungal growth.

AntiBlu® sapstain control products can prevent fungal mold from growing on wood when applied to green lumber within 24 hours of being cut. Once mold is established and stain appears, the discoloration cannot be removed.

*Stain and mold can be found on the same piece of wood.*





*Stain fungi grow along wood rays, penetrating throughout the sapwood.*



*In these two photos, mold grows on the surface only. Stain penetrates the wood.*



*Stain conidiophores on wood surface may look like mold – dark hyphae and wood below indicate stain.*



*Mold hyphae are clear to white, conidiophores have various colors.*

The line of AntiBlu® chemicals includes cost-effective formulations designed for the control of sapstain, mold, and decay fungi in freshly sawn and seasoned logs, poles, posts, and lumber, using either dip or spray application. *AntiBlu* is a registered trademark of Arch Wood Protection, Inc.